

Illinois Refining Division

**Marathon
Petroleum Company**Robinson, Illinois 62454
Telephone 618/544-2121

OVERNIGHT MAIL - RETURN RECEIPT REQUESTED

May 22, 1985

EPA Region 5 Records Ctr.



375300

Ms. Diane Spencer
U.S. Environmental Protection Agency
Region 5, RCRA Activities
P.O. Box A3587
Chicago, IL 60690-3587

Re: Corrective Action Requirements
Hazardous and Solid Waste
Amendments of 1984
Robinson, Illinois
ILD 005476882

Dear Ms. Spencer:

Please find enclosed the certification regarding potential releases from solid waste management units at Marathon Petroleum Company's Robinson, Illinois Refinery.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in cursive script, appearing to read 'David R. Saad'.

David R. Saad
Environmental Coordinator

DRS:lmw

Enclosures

bcc: R. L. Barrett w/o enclosures
 E. W. Hennings " "
 J. E. Fort
 N. F. Seppi
 N. C. Tanneur
 V. L. May ←

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: Marathon Petroleum Company
 EPA I.D. NUMBER: ILD 005476882, IEPA 0338080002
 LOCATION CITY: Robinson
 STATE: Illinois

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	<u>YES</u>	<u>NO</u>
• Landfill	<u>X</u>	<u> </u>
• Surface Impoundment	<u>X</u>	<u> </u>
• Land Farm	<u>X</u>	<u> </u>
• Waste Pile	<u>X</u>	<u> </u>
• Incinerator	<u>X</u>	<u> </u>
• Storage Tank (Above Ground)	<u>X</u>	<u> </u>
• Storage Tank (Underground)	<u>X</u>	<u> </u>
• Container Storage Area	<u> </u>	<u>X</u>
• Injection Wells	<u> </u>	<u>X</u>
• Wastewater Treatment Units	<u>X</u>	<u> </u>
• Transfer Stations	<u> </u>	<u>X</u>
• Waste Recycling Operations	<u> </u>	<u>X</u>
• Waste Treatment, Detoxification	<u> </u>	<u>X</u>
• Other <u>Neutralization</u>	<u>X</u>	<u> </u>

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed on and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if available.

See Attachment A

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII Of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

See Attachments C-1 and C-2

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

See Attachment D

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d)).

R. L. Barrett, Mgr., Illinois Refining Division
Typed Name and Title

R. L. Barrett
Signature

May 22, 1985
Date

ATTACHMENT A

LANDFILL (ITEM A)

Two landfills are being operated at the Robinson Refinery. Insulation containing friable asbestos is buried at the site indicated on the attached plot plan. Quantities and dates of disposal cannot be determined. Only friable asbestos material is disposed of at this site. All disposal procedures are per EPA regulations and are regularly inspected by Illinois Environmental Protection Agency representatives. The material would not be considered a hazardous waste or contain hazardous constituents as described under RCRA.

Construction and inert type materials are buried at the other noted on-site landfill. Quantities and dates of disposal cannot be determined. Bricks, concrete, inert aluminum base material, metal and various other construction materials are disposed of at the IEPA regulated site. These materials would not be considered hazardous wastes nor be expected to contain hazardous constituents as described under RCRA.

Two additional areas (now closed) located at the refinery, were used for burial of heat exchanger bundles.

The location of the above noted sites are shown as Item A on the detailed map, Attachment B.

SURFACE IMPOUNDMENT

Two types of surface impoundments were or are being utilized at the Robinson Refinery.

Past Impoundments (Item B on Attachment B)

Prior to 1980 storage tanks were normally cleaned out by removing the material from the tank and placing the material in a pit inside the tank dike area. The material was allowed to weather prior to disposal onsite at the closed landfarm. Actual quantities and dates for the above operation have not been determined. The material would not be considered a hazardous waste under RCRA.

Current Bio-Sludge Impoundments (Item C)

Bio-sludge material is withdrawn from the Waste Water Treatment Plant daily for operational control. The material is directed to bio-sludge pit (170' x 50' x 10') or to one of five drying beds (100' x 60' x 4'). The bio-sludge is applied to the on-site land treatment facility one to two times per year. Approximately 15,000 barrels of the material are generated yearly. The material would not be considered as hazardous wastes under RCRA. The attached sketch, Item C, indicates the location of the impoundments.

LANDFARM (CLOSED) (ITEM D)

The old landfarm (closed prior to 1980) received material generally similar to the waste applied to the existing land treatment facility. Following is a list of materials that have been applied to the new land treatment facility and probably were also applied to the old landfarm: (1) DAF Skimmings, (2) HF Alky Sludge, (3) Slop Oil Emulsion Solids, (4) Oily Sludges, (5) API Separator Sludge, (6) Spent Caustic, (7) Bio-Sludge, (8) Contaminated Soils, (9) Heater Stack Solids, (10) Lime Solution, (11) Kerosene Clay Slurry and (12) Tank Bottoms (no-lead). The first six items listed are listed hazardous wastes or test to be a hazardous waste per current RCRA regulations. In addition, several other items, i.e., inert alumina material, sulfur, coke, tar, rocks and fly ash, etc., were applied. Actual dates of disposal and quantities cannot be determined. The old landfarm consisted of approximately 15 acres of surface area. When the facility was closed a grass cover was established and is maintained over the area. The attached sketch, Item D, indicates the location of the old landfarm. Material has not been disposed of on the landfarm since closure prior to RCRA.

WASTE PILES (ITEM E)

Materials are routinely stored at the Refinery in various locations pending final disposal. The material consisted mainly of catalyst, inert drying media, and impoundment basin dredgings/soil. The material would not be considered as hazardous wastes or hazardous constituents under RCRA. Actual dates and quantities of the piles cannot be determined. The piles are used mainly for temporary storage only. Refer to the attached sketch, Items E-1 through E-3 for pile locations.

Pile E-1 (Inactive)

Materials such as catalyst and inert items have been stored at this site prior to final disposition.

Pile E-2 (Active)

Materials such as catalyst and inert items are stored at this site at various times during the year prior to final disposal. Actual dates and quantities stored are not available.

Pile E-3 (Active)

During 1978-1979 the east/west stormwater impoundment basins were dredged to restore holding capacity. The dredged material was placed in area E-3 which is approximately 400' x 600'. Approximately 400,000 cubic feet of material is contained within the area.

INCINERATOR (ITEM F)

A fluidized bed incinerator was operated for incineration of slop oil emulsion solids (listed hazardous waste). The incinerator was built in 1970 and occupies an area approximately 70' x 40' near the Waste Water Treatment Plant; see attached sketch, Item F. The system was constructed to thermally treat slop oil emulsions and bio-sludge solids. The bio-sludge solids could not be treated in the incinerator, therefore after 1971, only slop oil emulsion solids were treated. The incinerator has a rated feed capacity of 262 gallons per hour of waste containing both oil and water. The normal charge rate to the incinerator was 75 to 100 gallons per hour when operated. The incinerator typically operated up to 90 days per year. In 1984 approximately 4,300 barrels of slop oil emulsion solids were thermally treated. In April, 1984 the operation of the incinerator was discontinued. A closure plan was submitted to and approved by the IEPA on April 25, 1985. The system will be closed (decontaminated) by September, 1985.

STORAGE TANK (ABOVE GROUND) (ITEM G)

A weak caustic solution was stored in Tank #306 prior to October 1981. Tank 306 was removed from spent caustic service and all liquids and residues were removed and applied to the land treatment facility. The tank was flushed with clean water until the pH of the rinse water stabilized at 7. In February 1982, the tank was returned to service, storing hot water. Since October, 1981, spent caustic solution has not been stored in the tank. The tank capacity is 15,000 gallons and is 10' x 24'. Prior to October, 1981, the stored material would have been classified as hazardous. During cleanout between October 1981 and February 1982, approximately 10,000 gallons of caustic solution was disposed of. Since February 1982, the tank has stored hot water and the material stored would not be considered as hazardous wastes under RCRA. A closure plan was submitted to and approved by the IEPA on April 25, 1985. The system will be closed (decontaminated) by September, 1985. See attached sketch, Item G-1, for location.

Two small tanks are located by the Laboratory for storage of finished product samples. Each tank has approximately a 300-gallon capacity. One tank holds gasoline samples while the remaining tank holds a fuel oil/gas oil mixture. Approximately 1,500 gallons (total) is collected yearly. Material is added to the containers daily. The finished product samples are reprocessed. The material would not be considered as hazardous wastes under RCRA. See attached sketch, Item G-2, for location.

STORAGE TANKS (UNDERGROUND) (ITEM H)

A 300-gallon capacity tank is located north of the garage for temporary storage of lube oils removed from automobiles and trucks. The tank is emptied approximately twice per year and the oil is reprocessed at slop oil recovery. The material may be added to the tank on a daily basis. The oil would not be considered as hazardous wastes under RCRA. See attached sketch, Item H-1, for location.

A 4,000-gallon capacity tank was recently installed in the tank farm by the fire training area. Indigenous skimmed oils are placed in the tank for preprocessing at the slop oil recovery system. The material stored in the tank would not be considered as hazardous wastes under RCRA. See attached sketch, Item H-2, for location.

WASTE WATER TREATING UNITS (ITEM I)

Table 1 lists the Waste Water Treatment Units and their respective sizes.

Waste water from the Refinery process units and sour water unit enters the Waste Water Treatment Plant diversion box. The water then enters a gravity-type separator (API Separator). The oil-containing material recovered from the Separator is processed (treated) to recover the usable oil, while any settled sludge is removed from the system--manually, one to two times per year--treated as a RCRA hazardous waste.

The waste water is mixed with a flocculant in the chemical flocculation unit where large paddles constantly stir the water to keep the flocculated material from settling.

Removal of the flocculated material is accomplished in the Sedifloter. The floated materials rise to the surface of the Sedifloter chamber and are skimmed off, while the effluent water is directed to the aeration surge basin. The skimmings are sent to the DAF treatment tank for further treatment where DAF float is withdrawn from the system and applied directly to the land treatment facility or are temporarily stored in the DAF skimmings pit. The aeration surge basin functions as a mixing chamber for effluent waters from the sedifloter system and the storm-water impoundment basins, which are shown as Item I-1. A total of three retention basins are utilized to retain stormwater. These retention basins have a total containment volume of 26 million gallons and cover a survey area of 17 acres.

The activated sludge process utilizes aerobic biological treatment. Effluent water from the aeration basin is mixed with a chemical flocculant in the final clarifier which acts as a sedimentation basin. Some activated sludge is continuously removed from the system at a relatively low rate to control sludge age and total solids in the activated sludge basin. The sludge, a non-hazardous waste, is removed from the system to drying beds and/or the bio-sludge pit for dewatering.

The effluent water from the final clarifier is directed to a sand filtration system prior to its being discharged from the Refinery.

TABLE 1
WASTE WATER TREATMENT PLANT
UNIT PROCESS SUMMARY

<u>Unit</u>	<u>Dimensions (Ft)</u>	<u>Volume (Gal)</u>
API Separator	2 @ 46 x 15 x 6 2 @ 65 x 15 x 5.5	160,000
Floc Tank	20.6 \emptyset x 9	31,500
DAF Unit	35.6 \emptyset x 9.6	71,000
DAF Treat Tank	15 \emptyset x 12	15,800
Surge Basin	353 x 120 x 8	2,300,000
Activated Sludge Basin	353 x 120 x 8	2,300,000
Final Clarifier	75 \emptyset x 8	264,000
Sand Filters	3 @ 13 x 5	1,600 cu.ft.

Approximately 2.0-3.0 million gallons of water per day are treated.

The water treated in the Waste Water Treatment Plant would not be considered a hazardous waste or hazardous constituent under RCRA. See attached sketch, Item I, for the location of the plant.

OTHER, NEUTRALIZATION, (ITEM J)

Two systems exist in the Refinery for the neutralization of acids.

The HF Alky Unit contains a concrete tank which is utilized to neutralize hydrofluoric acid with lime solution. The tank is approximately 25' x 25.5' x 10.5'. During 1984 the tank was cleaned twice with a total of 1,268 barrels of material being removed for disposal. The neutralized mixture may exhibit hazardous traits if the final pH is ≥ 12.5 . The material is normally removed from the tank during June, July, or August. See attached sketch, Item J-1, for location.

A concrete tank located west of the Power Plant, is utilized to neutralize sulfuric acid. The acid is neutralized with caustic to a pH of 6.0 to 9.0. The resulting neutral solution is then treated at the Waste Water Treatment Plant. Acid is neutralized on a weekly basis. The tank is 46' x 37' x 9'. Total amounts of liquid removed are unknown. After the acid is neutralized the resulting solution would not be considered as hazardous wastes or hazardous constituents under RCRA. See attached sketch, Item J-2, for location.

SDMS US EPA Region V

Imagery Insert Form

Some images in this document may be illegible or unavailable in SDMS.

Please see reason(s) indicated below:

☐

Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comment

☐

Confidential Business Information (CBI).

This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

Specify Type of Document(s) / Comment

☒

Unscannable Material: Oversized X or Format.

Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. The original document is available for viewing at the Superfund Records center.

Specify Type of Document(s) / Comment

☐

Other:

ATTACHMENT C

Attachment C-1 contains letters to the National Response Center concerning continuous application of hazardous substances onto the land treatment facility and into the waste storage surface impoundments located at the Refinery.

Attachment C-2 contains a TSD summary for 1982, 1983, and 1984 for both hazardous and non-hazardous waste. The summaries include waste type, source of waste, disposal method and amount of waste.

ATTACHMENT C-1



**Marathon
Petroleum Company**

Robinson, Illinois 62454
Telephone 618/544-2121

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 27, 1984

National Response Center "G-TGC-2"
400 7th Street S.W.
Washington, DC 20590

Attention: Duty Officer L. G. Weintraub

Re: CERCLA Comprehensive Environmental Response
Compensation, and Liability Act ("CERCLA")
Continuous Release Report

Dear Sirs:

Pursuant to our annual report to the National Response Center in August, 1983, this letter is sent to the National Response Center concerning the continuous application of hazardous substances onto the land treatment facility and into the waste storage impoundments located at Marathon Petroleum Company's Robinson Refinery, and to serve as the annual report under Section 103(f) of CERCLA.

Said land treatment facility ("landfarm") is in interim status under RCRA (ID No. ILD005476882) and is subject to all of the interim status standards, and groundwater monitoring is conducted for the facility. (Please find attached: (1) Groundwater Analyses for 1983; (2) Potentiometric Surface Map, Figure 2; and (3) Groundwater Monitoring Well System Groundwater Elevations.)

Refinery wastes are applied to the soil at the landfarm to allow for biodegradation of organic components of the wastes and immobilization of inorganic constituents. On a routine periodic basis the applied waste material is disked and/or tilled into the soil and appropriate nutrients applied to aid in the biodegradation.

Approximately 5450.8 tons of the following hazardous wastes are applied to the landfarm on an annual basis:

<u>Description of Waste</u>	<u>Amount</u>
a) HF Alkylation Sludge & Constant Boiling Mixture	122.2 Tons
b) Dissolved Air Flotation Sludge	4669.5 Tons
c) API Separator Sludge	112.8 Tons
d) Oil Sludge Mixture	533.8 Tons
e) Miscellaneous Refinery Waste	12.5 Tons

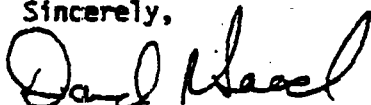
There are also three surface storage areas associated with the land treatment facility which are also under RCRA interim status (ID No. ILD005476882) and is subject to all interim status standards, and groundwater monitoring is conducted for these facilities (please find attached: (1) Groundwater Analyses for 1983; (2) Potentiometric Surface Map; and (3) Groundwater Monitoring Well System Groundwater Elevations.) These surface storage areas are used to store wastes before landfarm application or other treatment. The designation and capacities of these storage areas are as follows:

<u>Surface Storage Area</u>	<u>Capacity</u>
1) Dissolved Air Flotation Sludge Surface Impoundment	467,000 Gallons
2) Oil Sludge Surface Impoundment	290,000 Gallons
3) Bulk Waste Pile Pad	100 Cu. Ft.

Application rates to the landfarm are determined based primarily on the quantity and quality of waste to be treated, the physical and chemical properties of the soil, waste degradation rate, groundwater monitoring data and the weather conditions. Wastes are not applied on days when weather conditions are not favorable (e.g., heavy rains) and are not applied during winter months because of frozen soil. Application of wastes to the soil occurs on a more or less daily basis during favorable weather conditions.

Unless we are informed by you as to the contrary, all future annual reports concerning the land facility shall be in writing and the surface storage areas and landfarm facilities will be considered a continuous release facility.

Sincerely,



David R. Saad
Environmental Coordinator

DRS:sam

Attachment

cc: William Hedeman (USEPA)

bcc: J. L. Atkins
E. W. Hennings
N. F. Seppi
J. E. Fort
V. L. May/with attachments ✓

DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples

June 6, 1983
Page 1

Chain of Custody Data Required for ETC Data Management Summary Report

See Below
ETC Sample No.

MARATHON PETROLEUM COMPANY
Company

WPCROBGM
Facility

See Below
Sample Point Date

Sample Points, Sampling Dates, and ETC Sample No.'s

Parameter	Unit	W B1-D 830418 C0822	W B2-U 830418 C0823	W B3-U 830418 C0824	W B4-D 830418 C0825	W N1-D 830418 C0826	W N2-D 830418 C0827	
Met., Pest., & Herb.								
Organic Nitrogen	ug/l	120	20	20	1300	70	460	
Organic Nitrogen	ug/l	40000	48000	45000	31000	35000	40000	
Conventional								
Chloride	mg/l	9.4	113	5.5	1.6	34	7	
Sulfate as SO4	mg/l	<9	<9	<9	<9	16	16	
Total Organic Halides (TOX)	ug/l	83.9	49.5	50.9	23.4	20.5	70.6	
Total Organic Halides (TOX)	ug/l	79.4	57.8	50.2	23.1	27.4	63.9	
Total Organic Halides (TOX)	ug/l	80.8	83.7	53	29.8	29.3	60.8	
Total Organic Halides (TOX)	ug/l	81.2	53.3	51.8	31.7	26	68	
Total Organic Carbon	mg/l	71	28	46	63	80	77	
Total Organic Carbon	mg/l	69	32	42	58	88	76	
Total Organic Carbon	mg/l	69	31	41	62	79	76	
Total Organic Carbon	mg/l	70	32	41	54	70	74	
Specific Conductance	um/cm	456	420	398	552	725	457	
Specific Conductance	um/cm	456	420	396	554	727	522	
Specific Conductance	um/cm	455	420	401	565	741	521	
Specific Conductance	um/cm	456	419	412	564	737	537	
std		7.3	7.6	7.4	7.3	7.2	7.3	
std		7.3	7.6	7.4	7.3	7.2	7.3	
std		7.3	7.6	7.4	7.3	7.3	7.3	
std		7.3	7.6	7.4	7.3	7.3	7.3	

ATTACHMENT C-1

**DATA MANAGEMENT SUMMARY REPORT
(DM-1C) - All Parameters Present, Selected Samples**

August 18, 1983
Page 1

Chain of Custody Data Required for ETC Data Management Summary Report

See Below

MARATHON PETROLEUM COMPANY

MPCROBGM

See Below

ETC Sample No.

Company

Facility

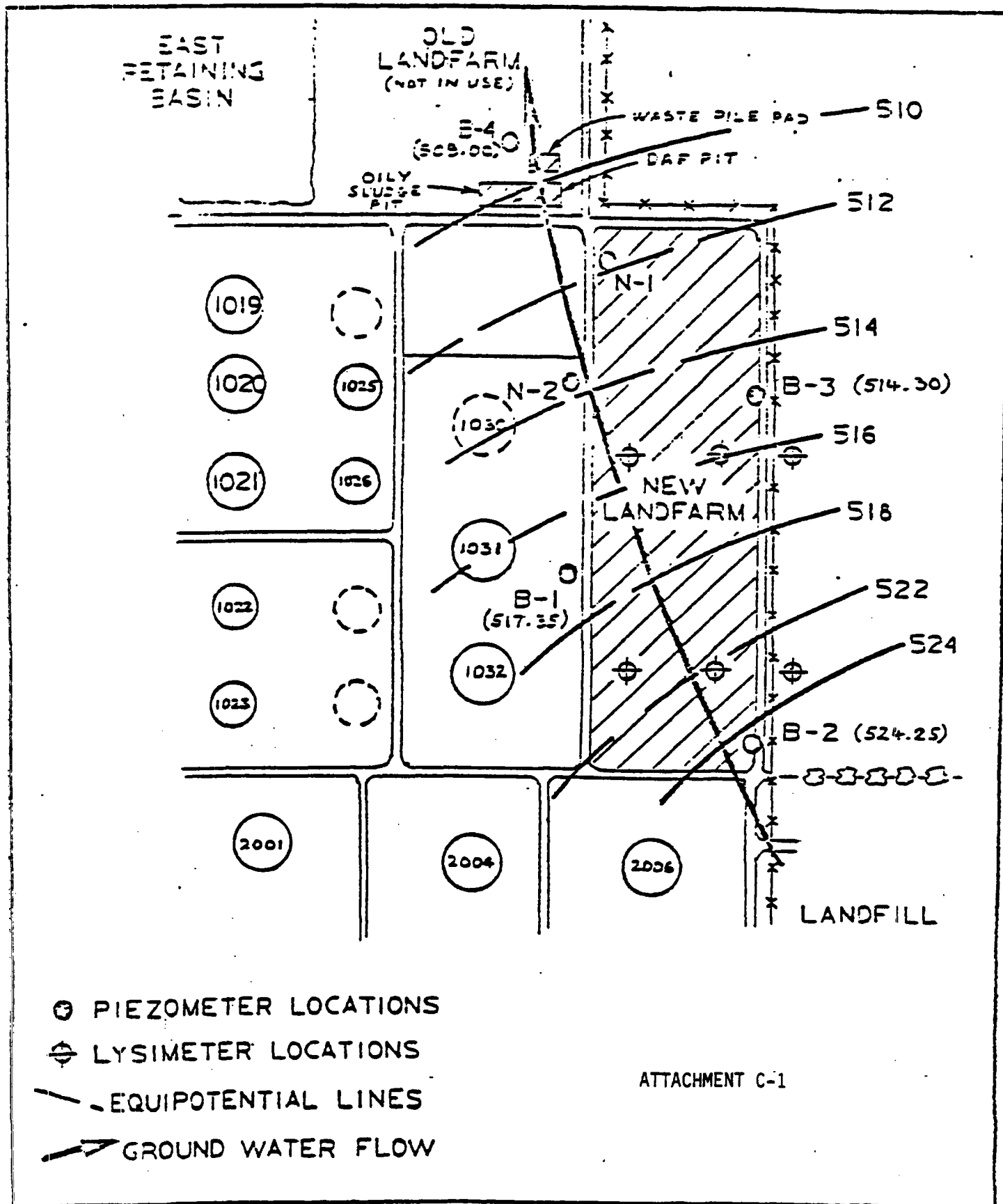
Sample Point

Date

		Sample Points, Sampling Dates, and ETC Sample No.'s							
Parameters	Units	W B1-D 830620 C4573	W B2-U 830620 C4574	W B3-U 830620 C4575	W B4-D 830620 C4577	W N1-D 830620 C4576	W N2-D 830620 C4578		
Conventionals									
Chloride	mg/l	9.31	4.66	28	0.76	22.8	5.67		
Total Organic Halides (TOX)	ug/l	44.4	62	30	28	43	20.6		
Total Organic Halides (TOX)	ug/l	31.4	53	40	26.2	44	19.6		
Total Organic Halides (TOX)	ug/l	38.7	87	48	24.9	29	21.1		
Total Organic Halides (TOX)	ug/l	30.3	72	39	24.3	37	22.2		
Total Organic Carbon	mg/l	74	54	23	86	94	76		
Total Organic Carbon	mg/l	72	54	22	84	93	75		
Total Organic Carbon	mg/l	73	54	22	84	93	75		
Total Organic Carbon	mg/l	73	54	22	79	93	75		
Specific Conductance	um/cm	530	410	410	550	700	520		
Specific Conductance	um/cm	530	410	410	560	700	520		
Specific Conductance	um/cm	530	410	420	560	710	530		
Specific Conductance	um/cm	530	410	420	570	710	530		
	std	7.1	7.5	7.8	7.8	7.6	7.4		
	std	7.1	7.5	7.8	7.8	7.6	7.4		
	std	7.1	7.5	7.8	7.8	7.6	7.4		
	std	7.1	7.5	7.8	7.8	7.6	7.4		

ATTACHMENT C-1

ROBINSON REFINERY - MARATHON



ATTACHMENT C-1

GROUNDWATER ELEVATIONS

<u>Date</u>	<u>B-1</u>	<u>B-2</u>	<u>B-3</u>	<u>B-4</u>	<u>N-1</u>	<u>N-2</u>
4/18/83	521.3	529.8	519.3	512.0	513.4	516.7
6/20/83	521.6	533.0	515.3	511.7	512.3	516.7

ATTACHMENT C-1



**Marathon
Petroleum Company**

Robinson Illinois 62454
Telephone 618/544-2121

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 4, 1983

National Response Center "G-TGC-2"
400 7th Street S.W.
Washington, DC 20590

Attention: Duty Officer L. G. Weintraub

Re: CERCLA Comprehensive Environmental Response,
Compensation, and Liability Act ("CERCLA")
Continuous Release Report

Dear Sirs:

Pursuant to our conversation with the National Response Center, this letter is sent to confirm in writing the telephonic report made to the National Response Center on August 1, 1983, concerning continuous releases of hazardous substances at the land treatment facility and waste storage impoundments located at Marathon Petroleum Company's Robinson, Illinois Refinery, and to serve as the annual report under Section 103(f) of CERCLA.

Said land treatment facility ("landfarm") is in interim status under RCRA [ID No. ILD005476882] and is subject to all of the interim status standards, and groundwater monitoring is conducted for the facility. [Please find attached: (1) Groundwater Analyses for March 1, 1983, May 10, 1982, July 19, 1982, and November 9, 1982; (2) Potentiometric Surface Map, Figure 2; (3) Groundwater Monitoring Well System Groundwater Elevations, and ;(4) Groundwater Monitoring Statistical Analysis on Upgradient Wells].

Refinery wastes are applied to the soil at the landfarm to allow for biodegradation of organic components of the wastes and immobilization of inorganic constituents. On a routine periodic basis the applied waste material is disked and/or tilled into the soil and appropriate nutrients applied to aid in the biodegradation.

Approximately 3442.3 tons of the following hazardous wastes are applied to the landfarm on an annual basis:

National Response Center "B-TGC-2"
August 4, 1983
Page 2

<u>Description of Waste</u>	<u>Amount</u>
a) HF Alkylation Sludge & Constant Boiling Mixture	72.0 Tons
b) Dissolved Air Flotation Sludge	2093.5 Tons
c) API Separator Sludge	118.5 Tons
d) Oil Sludge Mixture	1156.7 Tons
e) Miscellaneous Refinery Waste	1.6 Tons


There are also three surface storage areas associated with the land treatment facility which are also under RCRA interim status [ID No. ILD005476882] and subject to all interim status standards, and groundwater monitoring is conducted for these facilities [please find attached: (1) Groundwater Analyses for March 1, 1982, May 10, 1982, July 19, 1982, and November 9, 1982; (2) Potentiometric Surface Map, Figure 2; (3) Groundwater Monitoring Well System Groundwater Elevations, and; (4) Groundwater Monitoring Statistical Analysis, upgradient wells]. These surface storage areas are used to store wastes before landfarm application or other treatment. The designation and capacities of these storage areas are as follows:

<u>Surface Storage Area</u>	<u>Capacity</u>
1) Dissolved Air Flotation Sludge Surface Impoundment	467,000 Gallons
2) Oil Sludge Surface Impoundment	290,000 Gallons
3) Bulk Waste Pile Pad	100 Cu. Ft.

Application rates to the landfarm are determined based primarily on the quantity and quality of waste to be treated, the physical and chemical properties of the soil, waste degradation rate, groundwater monitoring data and the weather conditions. Wastes are not applied on days when weather conditions are not favorable (e.g., heavy rains) and are not applied during winter months because of frozen soil. Application of wastes to the soil occurs on a more or less daily basis during favorable weather conditions.

Unless we are informed by you as to the contrary, all future annual reports concerning the land facility shall be in writing and the surface storage areas and landfarm facilities will be considered a continuous release facility.

Sincerely,


David R. Saad
Environmental Coordinator

DRS:mjb

Attachment

cc: William Hedeman (USEPA)

bcc: J. L. Atkins
E. W. Hennings
N. F. Seppi
J. P. Connor
V. L. May

ATTACHMENT C-1

GROUND WATER ANALYSES MARATHON PETROLEUM COMPANY - ROBINSON REFINERY DATE OF SAMPLING March 1, 1982

WELL NO. → PARAMETER	B-1	B-2	B-3	B-4	H-1	H-2
Temperature (°F)	53	52		62	54	52
Arsenic (mg/l)	0	<.001		<.001	0	0
Barium (mg/l)	0.10	0.12		0.12	0.17	0.20
Bismuth (mg/l)	0.0025	<.0008		<.0044	0.0036	0.0044
Boron (mg/l)	<0.05	0.05		<0.05	<0.05	<0.05
Fluoride (mg/l)	0.10	0.17		0.16	0.20	0.18
Lead (mg/l)	0.004	0.049		0.016	0.006	0.015
Mercury (mg/l)	<0.0001	0.0027/0.0049 ¹		<0.0001/0.0001 ¹	0.0002	<0.0001
Nitrate as NO ₃ -N (mg/l)	3.1	23.6		3.1	5.3	2.0
Selenium (mg/l)	0.004	0.012/0.010 ¹ /0.001 ¹		0.015/0.011 ¹ /0.001 ¹	0.002	0.008
Silver (mg/l)	<0.05	<0.05		<0.05	<0.05	<0.05
Endrin (mg/l)	ND	ND		ND	ND	ND
Endosulfan (mg/l)	ND	ND		ND	ND	ND
Methoxychlor (mg/l)	ND	ND		ND	ND	ND
Toxaphene (mg/l)	ND	ND		ND	ND	ND
2,4-D (mg/l)	ND	ND		ND	ND	ND
2,4,5-TP Silver (mg/l)	ND	ND		ND	ND	ND
Gross Alpha (µCi/l)	2.2 (12.3)	1.0 (11.6)		2.0 (12.0)	3.0 (12.5)	1.2 (11.4)
Gross Beta (µCi/l)	3.9 (15.8)	15 (10.7)		2.9 (15.7)	1.5 (15.7)	1.0 (16.1)
Radium 226 (µCi/l)	0.2 (10.6)	0.0 (10.7)		0.4 (10.7)	0.0 (10.7)	0.0 (10.5)
Radium 228 (µCi/l)	0.0 (15.7)	0.0 (16.5)		0.0 (16.5)	0.0 (17.9)	0.0 (17.3)
Coliform Bacteria (1/100 ml)	0	0		0	0	0
Chloride (mg/l)	13	33		13	13	8
Copper (mg/l)	<0.05	<0.05		<0.05	<0.05	<0.05
Manganese (mg/l)	0.38	<0.05		0.34	0.30	0.55
Phenols (mg/l)	<0.002	<0.002		0.007	<0.002	0.005
Sulfur (mg/l)	40.7	41.0		60.0	26.3	41.7
Sulfate (mg/l)	13	2		26	14	13
µl (µl Units)	7.91/7.95/7.95/7.96	0.19/0.20/0.20/0.1		0.41/0.43/0.46/0.46	0.17/0.20/0.20/0.21	7.92/0.01/0.01/0.01
Specific Conductance (µmhos/cm)	490/487/500/501	358/355/355/356		466/466/474/474	526/520/525/526	469/467/465/471
Total Organic Carbon (mg/l)	10.3/9.6/9.3/9.9	15.2/15.4/13.3/13.6		16.2/12.2/12.2/14.2	10.0/0.1/9.0/9.2	12.0/14.2/12.6/11.1
Total Organic Halogen (µg/l)	14/ND/ND/13	44/39/55/53		22/24/22/25	11/19/17/22	20/31/21/20

- ¹ Resample run by independent laboratory
- ² Resample run by Marathon Laboratory

ATTACHMENT C-1

GROUND WATER ANALYSES MARATHON PETROLEUM COMPANY - ROBINSON REFINERY DATE OF SAMPLING May 10, 1982

WELL NO. → PARAMETER	B-1	B-2	B-3	B-4	B-1	B-2
Temperature (°F)	57	55	51	59	55	58
Arsenic (mg/l)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Barium (mg/l)	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Cadmium (mg/l)	.005	<.001	.002	<.001	<.001	.004
Chromium (mg/l)	.0026	.0025	.0023	.0023	.003	.004
Fluoride (mg/l)	0.25	0.28	0.48	0.45	0.18	0.31
Lead (mg/l)	0.009	0.009	0.009	0.008	0.007	0.006
Mercury (mg/l)	0.0004/<0.0001 ¹	0.0007/<0.0001 ¹	0.0013/0.0013 ¹	<0.0003/<0.0001 ¹	<0.0003/<0.0001 ¹	<0.0003/<0.0001 ¹
Nitrate (as NO ₃ -N) (mg/l)	1.8	27	8.4	2.2	2.2	2.2
Selenium (mg/l)	<0.003/<0.001 ¹	<0.003/<0.001 ¹	<0.003/<0.001 ¹	<0.003/<0.001 ¹	<0.003/<0.001 ¹	<0.003/<0.001 ¹
Silver (mg/l)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Endrin (mg/l)	ND	ND	ND	ND	ND	ND
Dieldrin (mg/l)	ND	ND	ND	ND	ND	ND
Methoxychlor (mg/l)	ND	ND	ND	ND	ND	ND
Forapheno (mg/l)	ND	ND	ND	ND	ND	ND
2,4-D (mg/l)	ND	ND	ND	ND	ND	ND
2,4,5-TP Silver (mg/l)	ND	ND	ND	ND	ND	ND
Gross Alpha (pCi/l)	4 (14)	0 (12)	-1 (12)	2 (13)	-6 (18)	1 (11)
Gross Beta (pCi/l)	3 (14)	20 (19)	1.0 (23)	-3 (13)	-13 (115)	-3 (14)
Radium 226 (pCi/l)	0.1 (10.3)	0.1 (10.2)	0.1 (10.3)	1.5 (11.0)	-0.1 (10.3)	0.2 (10.4)
Radium 228 (pCi/l)	0.4 (11.2)	-0.5 (11.1)	-0.4 (11.3)	0.0 (11.3)	-0.6 (11.1)	-0.2 (11.0)
Coliform Bacteria (1/100 ml)	0	0	0	0	0	0
Chloride (mg/l)	4	15	5	3	12	2
Iron (mg/l)	<.0018	<.0018	<.0018	.0020	.0095	<.0018
Manganese (mg/l)	0.22	<0.01	<0.01	0.56	0.35	0.40
Mercury (mg/l)	<0.002	<0.002	<0.002	0.003	<0.002	<0.002
Sulfur (mg/l)	39.2	38.9	45.8	49.0	35.9	39.2
Sulfate (mg/l)	12	5	8	28	32	17
Oil (ml Units)	7.90/7.87/7.87/7.86	8.12/8.17/8.15/8.18	8.12/8.23/8.22/8.23	7.74/7.72/7.81/7.82	7.90/7.88/7.96/7.97	8.10/8.09/8.07/8.07
Specific Conductance (microhm/cm)	407/415/420/421	433/434/427/435	431/430/432/435	533/541/531/542	644/640/644/640	4152/4177/4127/415
Total Organic Carbon (mg/l)	9.6/11.3/9.5/10.6	5.7/6.4/6.4/2.8	9.8/7.1/7.8/5.9	26.0/23.9/22.6/25.3	10.5/10.1/9.9/9.3	7.7/7.6/6.9/6.6
Total Organic Halogen (mg/l)	36/28/37/ND	43/35/31/40	25/22/24/15	ND/ND/19/ND	13/ND/ND/ND	24/16/15/24

¹ Resample run by Independent laboratory
² Resample run by Marathon Laboratory

ATTACHMENT C-1

GROUND WATER ANALYSES MARATHON PETROLEUM COMPANY - NOWATKINS REFINERY DATE OF SAMPLING JULY 19, 1982

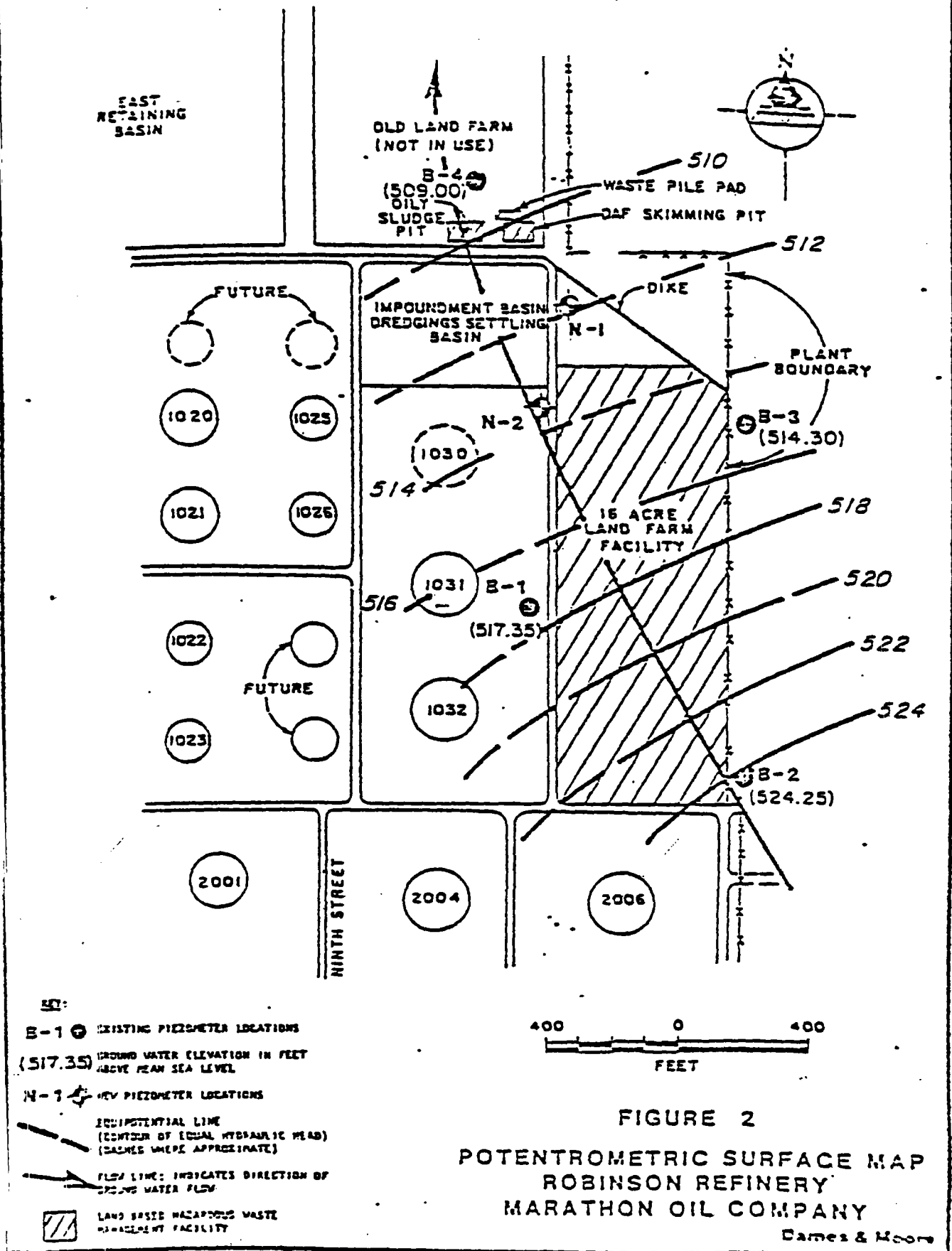
WELL NO. → PARAMETER	B-1	B-2	B-3	B-4	H-1	H-2
Temperature (°F)	60°F	58°F	60°F	59°F	64°F	62°F
Arsenic (mg/l)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Barium (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Boron (mg/l)	0.005	0.001	0.003	0.005	0.005	0.004
Chromium (mg/l)	0.0025	0.0027	0.0016	0.0015	0.0031	0.0011
Fluoride (mg/l)	0.11	<0.10	0.32	0.25	0.18	1.0
Lead (mg/l)	0.009	0.009	0.009	0.009	0.008	0.007
Mercury (mg/l)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Nitrate (as NO ₃ -N) (mg/l)	4.6	27.8	7.4	2.6	3.6	2.6
Selenium (mg/l)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Silver (mg/l)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Cadricin (mg/l)	ND	ND	ND	ND	ND	ND
Endrin (mg/l)	ND	ND	ND	ND	ND	ND
Heptachlor (mg/l)	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide (mg/l)	ND	ND	ND	ND	ND	ND
DDT (mg/l)	ND	ND	ND	ND	ND	ND
2,4-D (mg/l)	ND	ND	ND	ND	ND	ND
2,4,5-TP (mg/l)	ND	ND	ND	ND	ND	ND
Gross Alpha (pCi/l)	3 ± 4	0 ± 3	4 ± 4	5 ± 5	4 ± 4	1 ± 4
Gross Beta (pCi/l)	4 ± 5	0 ± 5	0 ± 5	3 ± 6	6 ± 6	1 ± 5
Radium 226 (pCi/l)	-0.2 ± 0.7	-0.2 ± 0.7	-0.2 ± 0.7	0.6 ± 1.0	0.5 ± 0.9	-0.3 ± 0.7
Radium 228 (pCi/l)	2.4 ± 1.3	2.4 ± 1.3	0.7 ± 1.3	0.4 ± 1.2	0.9 ± 1.3	0.6 ± 1.6
Coliform Bacteria (1/100 ml)	0	0	0	0	0	0
Chloride (mg/l)	10	34	4	4	24	6
Cobalt (mg/l)	0.005	0.003	0.014	0.015	0.005	0.003
Hexachlor (mg/l)	0.201	0.004	0.030	0.742	0.278	0.413
Heptachlor (mg/l)	<0.002	<0.002	<0.002	0.002	0.002	0.002
Mercury (mg/l)	36.5	40.3	52.5	36.7	32.4	40.3
Nitrate (mg/l)	9	0.5	11	175	21	17
DO (mg/l)	7.48/7.59/7.59/7.54	8.13/8.07/8.08/8.04	8.14/8.26/8.24/8.22	8.13/8.22/8.23/8.21	7.88/7.90/7.88/7.93	7.63/7.60/7.61/7.61
Specific Conductance (microhm/cm)	489/498/495/498	481/481/483/480	345/348/347/350	828/830/831/828	622/621/622/619	412/413/414/413
Total Organic Carbon (mg/l)	50.6/49.4/49.5/46.5	23.7/23.4/23.1/20.0	28.7/25.9/26.4/25.3	42.7/35.4/32.4/37.5	10.6/10.7/11.2/9.0	15.2/0.3/11.1/10.1
Total Organic Halogen (mg/l)	23/28/24/24	41/40/42/41	23/26/29/27	41/44/41/36	9.2/10/8.8/12	15/17/19/14

ATTACHMENT C-1

GROUND WATER ANALYSES PARATHION PETROLEUM COMPANY - ROBINSON REFINERY DATE OF SAMPLING NOVEMBER 9, 1982

WELL NO. → PARAMETER	B-1	B-2	B-3	B-4	N-1	N-7
Temperature (°C)	15.6	15.6	16.1	14.4	16.1	15.0
Arsenic (mg/l)	<0.005	ND	ND	ND	ND	<0.005
Barium (mg/l)	0.020	0.040	0.040	0.045	0.045	0.025
Boron (mg/l)	ND	ND	ND	ND	ND	<0.005
Chromium (mg/l)	ND	ND	ND	ND	ND	ND
Fluoride (mg/l)	0.15	0.12	0.30	0.34	0.29	0.14
Lead (mg/l)	<0.01	<0.01	<0.01	0.012	<0.01	<0.01
Mercury (mg/l)	<0.0002	ND	ND	ND	<0.0002	ND
Nitrate as N	0.32	10.7	2.42	<0.04	<0.04	<0.04
Selenium (mg/l)	ND	ND	ND	ND	ND	ND
Silver (mg/l)	ND	ND	ND	ND	ND	ND
Endrin (mg/l)	ND	ND	ND	ND	ND	ND
Lindane (mg/l)	ND	ND	ND	ND	ND	ND
Heptachlor (mg/l)	ND	ND	ND	ND	ND	ND
Toxaphene (mg/l)	ND	ND	ND	ND	ND	ND
2,4-D (mg/l)	ND	ND	ND	ND	ND	ND
2,4,5-TP Silven (mg/l)	ND	ND	ND	ND	ND	ND
Gross Alpha (pCi/l)	<2	<2	<2	<4	<2	<2
Gross Beta (pCi/l)	<4	<4	14.43	<3	9.513.1	<6
Radiation 226 (pCi/l)	-	-	-	-	-	-
Radiation 220 (pCi/l)	-	-	-	-	-	-
Coliform Bacteria (1/100 ml)	0	0	0	0	0	0
Chloride (mg/l)	69.0	90.5	60.3	75.9	107	70.7
Iron (mg/l)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Manganese (mg/l)	200	ND	0.05	1.400	0.970	0.500
Phenols (mg/l)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfide (mg/l)	41	42	49	37	30	47
Sulfate (mg/l)	<9	<9	<9	18	14	<9
Oil (ml Units)	7.6	7.0	0.1/ 0.1/ 0.1/ 0.1	7.9	0.0/ 0.0/ 0.0/ 0.0	7.1
Specific Conductance (umhos/cm)	541	413	409/ 413/ 414/ 415	313/300	590/ 599/ 508/ 597	526
Total Organic Carbon (mg/l)	1.3/1.3	1.0/1.0	44/ 43/ 33	4.9/5.0	1.3/ 1.4/ 1.3/ 1.1	1.4/1.4
Total Organic Halogen (ug/l)	.0219/.0223	.0162/.0196	.0522/.0544/.0490/.0510	.0169/.0221	.0221/.0200/.0216/.0220	.0190/.0192

ND = Not Detectable



ATTACHMENT C-1

GROUND WATER MONITORING WELL SYSTEM

GROUND WATER ELEVATIONS*(ft.,msl)

MARATHON PETROLEUM COMPANY - ROBINSON REFINERY

<u>Sample Date</u>	B-1	B-2	B-3	B-4	N-1	N-2
3/1/82	521.0	527.6	-	512.1	512.5	516.1
5/10/82	521.2	526.9	512.3	510.9	512.1	515.4
7/14/82	521.6	528.4	517.1	511.0	511.4	515.5
11/9/82	519.0	524.7	515.4	509.4	509.8	513.6
Ground level elevation (ft./msl)	523.3	534.4	519.3	520.7	514.0	516.7

*The above figures do not accurately indicate the ground water elevations. The hydrogeological investigation of our ground water was completed by the Engineering Firm of Dames & Moore who noted that the static water levels were above the top of the aquifer indicating that artesian conditions exist. The data is the best data available in that eliminating artesian effects is nearly impossible.

VLM:lmw
2/22/83

STATISTICAL ANALYSIS GROUND WATER MONITORING

Statistical Calculation

MARATHON PETROLEUM, Robinson, Illinois

MONITORING DATA for Facility: MPCROBGM Sample Point: WH2-U, WH3-U*

Parameter:	SPEC. COND.	TOT. ORG. CARBON	TOT. ORG. HALIDE	pH
Data:	356 um/cm	15.2 mg/l	44.0 ug/l	0.19 std
	355	15.4	39.0	0.20
	355	13.3	55.0	0.20
	356	13.5	53.0	0.10
	433	5.7	43.0	0.12
	434	6.4	35.0	0.17
	427	6.4	31.0	0.15
	435	7.8	40.0	0.10
	401	23.7	41.0	0.13
	401	23.4	40.0	0.07
	403	21.7	42.0	0.00
	400	20.0	41.0	0.04
	413	1.8	16.2	7.80
	-	1.8	19.6	-
	-	-	-	-
	-	-	-	-
	431	9.8	25.0	0.17
	430	7.1	22.0	0.23
	432	7.8	24.0	0.22
	435	5.9	15.0	0.23
	345	28.7	23.0	0.14
	348	25.9	26.0	0.26
	347	26.4	29.0	0.24
	350	25.3	27.0	0.22
	409	44.0	52.2	0.10
	413	43.0	54.4	0.10
	414	33.0	49.0	0.10
	415	-	51.0	0.10
n:	25	25	26	25
Mean:	410.32	17.32	36.08	0.14
Variance:	2160.725	143.221	155.770	0.009

ATTACHMENT C-1

*This data is for our two upgradient monitoring wells, B-2 and B-3. Data for both wells is averaged together.

ATTACHMENT C-2

TABLE I - ROBINSON REFINERY WASTES REPORT - 1984
BY WASTES

HAZARDOUS							
WASTE TYPE	SOURCE OF WASTE	DISPOSAL METHOD	QUANTITY OF WASTE		NET PRODUCTION		REMARKS
			Barrels	Short Tons	Barrels	Short Tons	
DAF Skimming	Sediflocator, WWT Sediflocator, WWT DAF Skimming Pic Sediflocator, WWT Sediflocator, WWT	DAF Sludge Thickener Land Treatment Land Treatment Oily Sludge Pic DAF Skimming Pic	94 4,693 19,694 2,945 11,205	17.1 831.3 3,502.3 337.8 2,032.6			Inc. inventory on 12/31/84
Slop Oil Emulsion	Tank 45 Tank 45 Slop Oil Tanks	Landform Incinerator Tank 45 ²	6,943 4,310 1,150	1,229.0 762.9 203.6			Inc. inventory on 12/31/84
API Separator Sludge	API Traps - WWT	Land Treatment	1,224	211.5	1,224	211.5	
Loaded Tank Bottoms	Tank 908 Tank 1032 Tank 903	Bulk Waste Pic Bulk Waste Pic Bulk Waste Pic	143 700 153	25.3 124.0 26.1			
Loaded Contaminated Soil	Tank 51	Bulk Waste Pic	84	19.0	1,082	194.4	
Polymer Acid Residue	HF Alky Heater	Waste Container Storage Area	5	.7	5	.7	4 drums
Formaldehyde, Hydrazine	Misc. Union	Waste Container Storage Area	2	.4	2	.4	1 drum of each
Spent Catalyst	Coard Case Reactor Cat Reformer	Waste Container Storage Area	9	1.7	9	1.7	7 drums
Loaded Contaminated Materials	Loaded Tank Cleaning	Waste Container Storage Area	5	.1	5	.1	4 drums
Paint Sludge & Solvent Mixture	Paint Cleanup, Plant	Waste Container Storage Area	5	.7	5	.7	4 drums
HF Alky Sludge	HF Alky Neutralization Basin	Land Treatment	998	222.1	998	222.1	
Oily Sludge	Oily Sludge Pic	Land Treatment	9,648	1,454.9			
Spent Caustic	89 Tank Bottoms	Land Treatment	194	48.1	194	48.1	
HAZARDOUS WASTES NET PRODUCTION:					34,884	6,314.0	

ATTACHMENT C-2

TABLE 1 - ROBINSON REFINERY WASTE REPORT - 1984

BY WASTES

(CONTINUED)

NON-HAZARDOUS

Waste Residue	Final Clarifier Final Clarifier Drying Bed Residue Pit Final Clarifier	Oily Sludge Pit Land Treatment Land Treatment Land Treatment DAF Skimming Pit	255 845 2,160 10,783 1,135	44.6 164.8 603.7 2,436.6 233.3	15,378	3,483.2
Kerosene Clay Slurry	Kerosene Treaters Kerosene Treaters Kero. Final Clay Filters	Oily Sludge Pit Land Treatment Land Treatment	360 389 760	71.9 77.7 131.8	1,309	301.4
MMA Solution	MMA Treaters	Oily Sludge Pit	25	4.4	25	4.4
HF Alky Limb Sludge	HF Alky Unit	Oily Sludge Land Treatment	95 703	21.1 156.9	800	178.0
HF Alky Sludge	HF Alky Neutrali- zation Basin	Land Treatment	280	62.3	280	62.3
Sewer Sludge	Colner Plant 23 Sec Gas Northwest Gate Trap West Gate Trap Plant	Land Treatment Land Treatment Land Treatment Land Treatment Land Treatment DAF Skimming Pit	15 80 15 617 167 950	3.4 18.2 3.4 73.7 28.8 216.5	1,644	344.0
Misc. Contaminated Solids	Loading Rack (E. of Crude #2) Water Distribution West Dependent	Land Treatment Land Treatment Land Treatment	200 96 18,033	45.3 21.8 3,025.8	18,331	3,082.9
Oil Sludge	West Impoundment Colner Fractionator	Land Treatment Land Treatment	400 100	84.8 16.8	300	101.6
Reactor Stack Solids	Power Plant	Land Treatment	14	3.9	14	3.9
Tank Bottoms (On-line)	Slag Unit (Self-heating) 1004 Tank (Gas Oil) 24 Tank (Aromatics) 912 Tank (Naptha- nack) 1001 Tank (Comb. Slag, Stock) 67 Tank (Colner Flow- down) 1003 Tank (Gasoline) 910 Tank (Crude) 806 Tank (#2 Oil)	Land Treatment Land Treatment Land Treatment Land Treatment Land Treatment Land Treatment Land Treatment Land Treatment Land Treatment	381 1,287 50 230 214 347 107 7,454 960	66.6 137.8 8.7 43.8 37.5 66.3 23.8 1,180.3 141.1	11,020	1,765.8
Misc. Oil Slag Oil	SIS Tank Dike Scum. API Trap - WWT Oil Condensate. Sec Gas Pit. API Trap - WWT	Land Treatment Land Treatment Land Treatment DAF Skimming Pit	130 345 1 14	18.7 61.6 .2 2.5	490	83.0
Caustic Solution	Hydrogen Plant	DAF Skimming Pit	720	138.6	720	138.6

NON-HAZARDOUS WASTES NET PRODUCTION: 30,711 11,359.1

ATTACHMENT C-2

TABLE IV - ROBINSON REFINERY WASTES REPORT - 1984
BY FACILITIES

FACILITIES	FACILITY FUNCTION	WASTE TYPE	WASTE CLASS	QUANTITY OF WASTE	
				BARRELS	SHORT TONS
Bulk Waste Pit	Storage & Treatment	Loaded Tank Bottoms	H-0006	1,082	194.4
Waste Container Storage Area	Storage	Polymer Acid Residue	H-0002	5	.7
		Spent Catalyst	H-0004	9	1.7
		Lead-Contaminated Materials	H-0008	5	.1
		Formaldehyde, Hydrazine	H-0122, 0133	2	.4
		Paint Sludge & Solvent Mixture	H-0001	5	.7
			0159, 0239	26	3.6
DAF Treatment Tank ¹	Treatment	DAF Skimmings	H-0048	94	17.1
Oily Sludge Pit	Storage	DAF Skimmings	H-0048	2,965	537.8
		Kerosene Clay Slurry	NE	360	71.9
		NEA Solution	NE	25	4.6
		Water Sludges	NE	253	46.6
		HF Alky Lime Solution	NE	95	21.1
				3,700	679.8
DAF Skimming Pit	Storage	DAF Skimmings	H-0048	11,205	2,032.6
		Slop Oil - WWT	NE	14	2.5
		Sewer Sludge	NE	950	216.5
		Water Sludges	NE	1,335	233.3
		Caustic Solution	NE	720	138.6
				14,224	2,623.7
Land Treatment	Disposal	DAF Skimmings	H-0048	24,387	4,393.6
		HF Alky Sludge	H-0002	998	222.1
		Slop Oil Emulsions	H-0049	6,943	1,229.0
		Oily Sludge	H-0051	9,648	1,854.9
		AFT Separator Sludge	H-0051	1,224	211.3
		Spent Caustic	H-0002	194	48.1
		Water Sludges	NE	13,788	3,208.1
		Misc. Contaminated Solids	NE	18,331	3,092.9
		HF Alky Sludge	NE	280	62.3
		Sewer Sludges	NE	694	127.5
		Oily Sludges	NE	976	182.1
		Water Tank Solids	NE	14	3.9
		Lime Solution	NE	705	156.9
		Kerosene Clay Slurry	NE	1,149	219.5
		Tank Bottoms - No Lead	NE	11,020	1,765.8
				90,371	18,548.2
Incinerator ²	Disposal	Slop Oil Emulsions	H-0049	4,310	782.9
45 Tank ³	Storage	Slop Oil Emulsions	H-0049	1,150	203.6

¹ Estimated Inventory on 12/31/84

² Incinerator shut down on 4/23/84

³ Inventory on 12/31/84

TABLE 1 - HAZARDOUS WASTE REPORT - 1982
11/25/82

ATTACHMENT C-2

HAZARDOUS							
WASTE TYPE	SOURCE OF WASTE	DISPOSAL METHOD	QUANTITY OF WASTE		NET PRODUCTION		REMARKS
			Barrels	Short Tons	Barrels	Short Tons	
DAF Sludge	SoftFloater, WWP DAF Sludge Pits SoftFloater, WWP SoftFloater, WWP SoftFloater, WWP	DAF Sludge Thickener ¹ Land Treatment Land Treatment Oily Sludge Pit DAF Sludge Pits	96 1,792 20,911 1,188 17,388	18.6 1,028.2 3,681.3 22.4 2,134.1			¹ Estimated Inventory on 12/31/82
Slud Oil Emulsion	Tank 48 Slud Oil Slud Oil Tanks	Incinerator Tank 48 ²	1,264 1,123	606.1 211.7	4,377	817.8	¹ Inventory on 12/31/82
Polymer Acid Residue	HP Alky Washer	Waste Container Storage Area	5	.7	5	.7	
Permethrin Trichloroethylene ³ Carboxy Trichloroethylene ³	Reaction Zone, Wastewater Units	Waste Container Storage Area	1.2 5.2 1.3	.2 .9 .2	5	1.3	³ Isomers of 1,1,1 Trichloroethylene & 1 isomer Carboxy Trichloroethylene, shipped out for reuse
Sulfur Catalyst	Acid Case, Cat Ref.	Waste Container Storage Area	9	1.4	9	1.4	
Oily Sludge	Oily Sludge Pits	Land Treatment	1,076	533.8			
API Separator Sludge	API Tanks, WWP	Land Treatment	688	112.8	688	112.8	
HP Alky Sludge	HP Alky Distillation Stripper Bottoms	Land Treatment Oily Sludge Pits	688 1	122.2 .3	688	122.5	
Sulfuric Acid & Absorbing Material	Slag Unit	Land Treatment	5	1.8	5	1.8	
Wastewater Sulfide Cleaning Sludge	Sludge Washing Pits Sludge Washing Pits	Land Treatment Oily Sludge Pits	61 25	11 6.5	66	18.5	
Leaded Tank Bottoms	Tank 1002	Both Waste Pile Pad	348	108.7	348	108.7	
Acids from GSE Pits	GSE Pits, Power Pits	Oily Sludge Pits	118	23.9	118	23.9	
HAZARDOUS WASTE NET PRODUCTION:					48,346	8,582.5	

NON-HAZARDOUS							
Waste Oil/Solvent	Final Clarifier Drying Beds Sludge Pits Final Clarifier Final Clarifier	Land Treatment Land Treatment Land Treatment Oily Sludge Pits DAF Pits	1,888 2,887 7,225 295 1,481	224.2 310.7 1,310.1 32.7 294	13,792	2,481.7	
Tank Bottoms (as lead)	Slud Oil, LOTS, 1001, 802, 816 Tanks 802, 28 Tanks	Land Treatment Oily Sludge Pits	2,386 288	412 91.4	2,646	463.4	
Barium-Clay Slurry	Tank 1004 Barium Treatment Tank 1004, Land Treat.	Land Treatment Land Treatment Oily Sludge Pits	230 254 23	28.4 39.1 2.8	309	78.2	
Waste Concentrated Sediment	LOTS 808 Tank 10,11,12 Tanks	Land Treatment Land Treatment Land Treatment	180 106 41	27.3 24 9.3	267	68.6	
HP Alky Sludge	HP Alky Distillation Stripper Bottoms	Land Treatment Oily Sludge Pits	122 10	68.6 1.8	348	68.6	
Incinerator Slud	Incinerator, WWP	Land Treatment	5	1.4	5	1.4	
Sludge Sludge	Wastewater API Tank Plant 10 & LSP HP Alky LSP Slud Oil LTPA	Land Treatment Land Treatment Land Treatment Oily Sludge Pits Oily Sludge Pits	48 19 188 370 12 110	7.4 3.7 36.3 71.8 2.3 21.3	739	142.8	
Ammonia Water	60 Brn, Flares HSA Separator	Land Treatment Oily Sludge Pits	488 228	82 46.2	688	182.2	
Fly Ash	Power Plant	Land Treatment Oily Sludge Pits	12 4	2.4 2.7	18	5.8	
Oily Sludge	Refinery Residue Slud Unit Center	Land Treatment Oily Sludge Pits Oily Sludge Pits	5 14 160	.9 2.7 28.4	189	38.0	
Slurry Oil	Waste Column Bottoms PCC	Land Treatment	5	.9	5	.9	
Coating Tank Sludge	Coating Tank	Land Treatment	893	100.8	893	100.8	
Insulator Sludge	Wm. 2 Cross Unit	Oily Sludge Pits	28	4.4	28	4.4	
NON-HAZARDOUS WASTE NET PRODUCTION:					19,463	3,522.3	

ATTACHMENT C-2

TABLE 11 - ROBINSON REFINERY WASTES REPORT - 1983
BY FACILITIES

FACILITIES	FACILITY FUNCTION	WASTE TYPE	WASTE CLASS	QUANTITY OF WASTE	
				Barrels	Short Tons
Waste Container Storage Area	Storage	Polymer Acid Residue	H	5	.7
		Spent Catalyst	H	9	1.4
		Formaldehyde, Trichloroethane	H	8	1.3
		Carbon Tetrachloride			
				22	3.4
Oily Sludge Pit	Storage	DAF Skimming	H	3,188	552.4
		HF Atky Sludge	H	1	.3
		Heat Exchanger Bundle Sludge	H	25	4.5
		Resin from DIB Filters	H	115	23.9
		Waste Biosludge	NH	295	52.7
		Tank Bottoms - no lead	NH	290	51.4
		Kerosene Clay Slurry	NH	25	3.8
		HF Atky Sludge	NH	10	1.8
		Sewer Sludge	NH	492	95.1
		Ammonia Water	NH	228	40.2
		Fly Ash	NH	6	2.1
		Oily Sludge	NH	154	29.1
		Desalter Sludge	NH	25	4.4
				4,821	861.7
DAF Skimming Pit	Storage	DAF Skimming	H	17,900	3,134.1
		Waste Biosludge	NH	1,421	254.0
				19,321	3,388.1
Bulk Waste Pile Pad	Storage & Treatment	Loaded Tank Bottoms	H	340	100.7
Land Treatment	Disposal	DAF Skimming	H	28,683	4,669.3
		Oily Sludge	H	3,076	533.8
		API Separator Sludge	H	680	112.8
		HF Atky Sludge	H	680	122.2
		Sulfuric Acid & Abs. Mt.	H	5	1.5
		Heat Exchanger Bundle Sludge	H	61	11.0
		Waste Biosludge	NH	12,036	2,145.3
		Tank Bottoms - no lead	NH	2,356	412.0
		Kerosene Clay Slurry	NH	484	74.5
		Misc. Contaminated Soil	NH	267	60.6
		HF Atky Sludge	NH	332	58.8
		Incinerator Sand	NH	5	1.4
		Sewer Sludge	NH	247	47.4
		Ammonia Water	NH	485	82.0
		Fly Ash	NH	12	3.4
		Oily Sludge	NH	5	.9
		Slurry Oil	NH	5	.9
		Cooling Tower Sludge	NH	503	100.8
				47,362	8,438.5
DAF Sludge-Thickener ¹	Treatment	DAF Skimming	H	94	16.8
48 Tank ²	Storage	Stop Oil Emulsion	H	1,133	211.7
Incinerator	Disposal	Stop Oil	H	3,244	606.1

¹Estimate Inv. on 12/31/83
²Inv. on 12/31/83

ATTACHMENT C-2

HAZARDOUS WASTES REPORT - 1982
Summary

HAZARDOUS							
WASTE TYPE	SOURCE OF WASTE	DISPOSAL METHOD	QUANTITY OF WASTE		NET PRODUCTION		REMARKS
			Barrels	Short Tons	Barrels	Short Tons	
HF Skimming	Sedifloter, WWT Sedifloter, WWT Sedifloter, WWT DAF Skimming Pit Sedifloter, WWT	DAF Sludge Thickener ¹ Oily Sludge Pit DAF Skimming Pit Land Treatment Land Treatment	94.5 150 5765 4626 6675	17.5 27.5 955.9 856.9 1226.6			¹ Estimate Inventory on 12/31/ 82
Top Oil Emulsion	Stop Oil Stop Oil, Tank 45	Tank 45 ² Incinerator	317 7643	54.9 1323.5			² Inv. on 12/31/82
Incinerator Sand	Incinerator	Waste Container Storage Area	52	13.1	52	13.1	
Trichloroethylene & pent Solvent	Machine Shop, Misc. Units	Waste Container Storage Area	3.9	.6	3.9	.6	
Polymer Acid Residue	HF Alky Heater	Waste Container Storage Area	1.3	.2	1.3	.2	
HF Alky Sludge	HF Alky Neutrali- zation Basin	DAF Skimming Pit Land Treatment	536.6 310	124.7 72.0	846.6	196.7	
Heater Stack Solids	Crude Unit Heater	Land Treatment	4.8	1.3	4.8	1.3	
Sulfuric Acid & Scorcing Material	Slug Unit	Land Treatment	1	.3	1	.3	
API Separator Sludge	API Traps, WWT API Traps, WWT	Oily Sludge Pit Land Treatment	638 645	117.2 118.5	1283	235.7	
Second Tank Bottoms	Tank 1012 Tank 908	Bulk Waste Pile ³ Bulk Waste Pile ¹	340 183	100.7 53	523	153.7	³ Mix of lead base and sand
Oily Sludge	Oily Sludge Pit	Land Treatment	6061	1156.7	6061	1156.7	
HAZARDOUS WASTES NET PRODUCTION:					29,421.1	5384.9	

NON-HAZARDOUS

Tank Bottoms	Stop Oil, 814 Tank 1007, 911, 912 Tanks	Oily Sludge Pit DAF Skimming Pit	7434 1260	1256.6 243.8	8694	1500.4	
Asphaltene Clay Slurry	Crude Unit Crude Unit Crude Unit	Oily Sludge Pit DAF Skimming Pit Land Treatment	220 30 207	33.8 4.5 31.8	457	70.2	
Waste Biosludge	Final Clarifier Biosludge Pit Final Clarifier	DAF Skimming Pit Land Treatment Land Treatment	2520 15,048 8184	444.3 2653.2 1443	25,752	4540.5	
Stop Oil	Pump Pit Tanks 1007 & 912	DAF Skimming Pit Land Treatment	30 350	5.6 66.8	380	72.4	
Ammonia Water	KO Drums	DAF Skimming Pit	87	15.3	87	15.3	
Heater Sludge	Coker, Sat Gas pH, & LEP	DAF Skimming Pit Land Treatment	25 41	4.8 7.9	66	12.7	
Miscellaneous Contaminated Soil	Tanks 1007 & 912 Sedifloter DIB & Water Distribution	Land Treatment Land Treatment Land Treatment		15.2 2.2 9.8		27.2	
Incinerator Sand Scale & Scale Catalyst	Incinerator Tank 913 FCCU	Land Treatment Land Treatment Land Treatment		8.4 2.7 5.5		16.6	
NON-HAZARDOUS WASTES NET PRODUCTION:					35,436	6255.3	

ATTACHMENT C-2

TABLE II - ROBINSON REFINERY WASTES REPORT - 1982
BY FACILITIES

FACILITIES	FACILITY FUNCTION	WASTE TYPE	WASTE CLASS	QUANTITY OF WASTE	
				Barrels	Short Tons
DAF Sludge Thickener ²	Treatment	DAF Skimmings	H	925	17.5
45 Tank ² (Incin. Charge)	Storage	Slop Oil Emulsions	H	317	54.8
Incinerator	Disposal	Slop Oil	H	7843	1322.5
Oily Sludge Pit	Storage	DAF Skimmings	H	150	27.8
		API Separator Sludge		638	117.2
		Tank Bottoms	N-H	7434	1256.6
		Kerosene Clay Slurry	N-H	220	33.8
				8442	1435.4
DAF Skimming Pit	Storage	DAF Skimming	H	5765	965.9
		HF Alky Sludge	H	536.6	124.7
		Tank Bottoms	N-H	1250	243.8
		Kerosene Clay Slurry	N-H	30	4.6
		Waste Biosludge	N-H	2520	444.3
		Slop Oil	N-H	30	5.6
		Ammonia Water	N-H	87	15.3
		Sewer Sludge	N-H	25	4.6
				10,253.6	1809.0
Land Treatment	Disposal	DAF Skimming	H	11,301	2093.5
		HF Alky Sludge	H	310	72.0
		Heater Stack Solids	H	4.8	1.3
		Sulfuric Acid & Abs. Mtl.	H	1	.3
		API Separator Sludge	H	645	118.5
		Oily Sludge	H	6061	1156.7
		Kerosene Clay Slurry	N-H	207	31.8
		Waste Biosludge	N-H	23,232	4096.2
		Slop Oil	N-H	350	66.8
		Sewer Sludge	N-H	41	7.9
		Misc. Solids	N-H		43.8
				42,152.8	7588.8
Waste Container Storage Area	Storage	Incinerator Sand	H	52	13.1
		Trichloroethylene & Solvent	H	3.9	.6
		Polymer Acid Residue	H	1.3	.2
				57.2	13.9
Bulk Waste Pile Pad	Storage & Treatment	Loaded Tank Bottoms	H	523	153.7

Waste Classification: H = hazardous, N-H = non-hazardous per RCRA

²Estimate as of 12/31/82

³Estimate as of 12/31/82

ATTACHMENT D

The releases described in Question 3 above did not contaminate the environment as a result of the releases. Ground water data is attached to the National Response Center Notification letter. The RCRA Part B permit application contains soil surface/soil core and lysimeter data concerning the existing land treatment facility.